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The identity of two of Azara's "mystery" waterbirds

La identidad de dos de las "misteriosas" aves acuáticas de Azara

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ABSTRACT
The identity of two birds described from Paraguay by Félix de Azara as No. 378 "Ypacahá jaspeado encima" and No. 402 "Chorlito pies roxos" is elucidated for the first time. No. 378 refers to Ocellated Crake *Micropygia schomburgkii* and is the basis for the name *Rallus maculosus* of Vieillot, 1819. *Rallus maculosus* Vieillot, 1819, is a *nomen oblitum*, unavailable for application. No. 402 is referable to Ruddy Turnstone *Arenaria interpres morinella* and is the basis of the name *Totanus nigellus* Vieillot, 1816. *Totanus nigellus* Vieillot, 1816 is thus a junior synonym of *Arenaria interpres morinella* (Linnaeus, 1766) and available for application.

Key Words. *Arenaria interpres morinella*, *Micropygia schomburgkii*, Ocellated crake, *Rallus maculosus*, Ruddy turnstone, *Totanus nigellus*.

RESUMEN
La identidad de dos aves descritas de Paraguay por Félix de Azara como No. 378 "Ypacahá jaspeado encima" y No. 402 "Chorlito pies roxos" es revelada. No. 378 se refiere al Burrito ocelado *Micropygia schomburgkii* y es la base del nombre *Rallus maculosus* de Vieillot, 1819. *Rallus maculosus* Vieillot, 1819, es un *nomen oblitum*, y no está disponible para su aplicación. No. 402 se trata del Vuelvepiedras *Arenaria interpres morinella* y es la base del nombre *Totanus nigellus* Vieillot, 1816. *Totanus nigellus* Vieillot, 1816 es un sinónimo junior de *Arenaria interpres morinella* (Linnaeus, 1766) y está disponible para su aplicación.

Palabras Clave. *Arenaria interpres morinella*, Burrito ocelado, *Micropygia schomburgkii*, *Rallus maculosus*, *Totanus nigellus*, Vuelvepiedras.

Félix de Azara (1742-1821), a Spanish military engineer, was a pioneer in natural history studies in southern South America. Charged with delimiting the borders of the Spanish and Portuguese crowns on the continent, he was sent to Buenos Aires and Asunción in representation of the Spanish king. When his Portuguese equivalent failed to show, he focused his attention on documenting the fauna, culture and geography of the region that he now called home, a broad area he defined as "Paraguay and La Plata", that includes modern day eastern Argentina, Paraguay, extreme southern Brazil and Uruguay. A detailed chronology of his movements, life and work is provided by Contreras (2010).

Azara was a keen amateur naturalist and though he lacked formal biological training he had a keen eye for descriptive detail. His lack of scientific training was reflected in the fact that he gave his species vernacular names only, these either being names in local usage or short, but slightly cumbersome descriptions of the bird at hand. Azara self-published his landmark publication "Apuntamientos para la historia natural de los páxaros del Paraguay y Río de la Plata" in Spanish in three volumes (1802,

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1805 a,b), but it received little circulation. A poor French translation of the work featuring the annotations of Sonnini (Azara 1809) was circulated much more widely, yet it was received with reticence by a bourgeois scientific class unimpressed by the "amateurish" nature of the work and too easily swayed by the largely unfounded speculations of the annotator (Beddall 1983). It would be several decades later, when the great Alcides d'Orbigny returned from his voyages to Brazil to confirm many of Azara's findings, that its true value was finally revealed (d´Orbigny 1839).

The lukewarm reception for the work did not prevent the taxonomists of the time clamoring to attach scientific names to the descriptions. One of the most prolific benefactors of Azara's work was Louis Jean-Pierre Vieillot (1748-1831), a French ornithologist and businessman (Beolens and Watkins 2003), who reproduced abbreviated French translations of Azara's texts, retaining what he considered to be the most important parts of the diagnosis, and applying a scientific binomial to the description in keeping with Linnean rules.

Azara (1802, 1805 a, b) provided descriptions of 448 birds from this region, of which over half were unknown to science at the time and 108 of which pertain to waterbirds, and it remains today a key text on the regions birds. However not all of Azara's descriptions have been conclusively associated with known species and a series of authors have attempted to identify and apply them to known taxa (Hartlaub 1847, Berlepsch 1887, Bertoni 1901, Laubmann 1939, Pereyra 1945, Smith 2018, Smith *et al*. 2018). Despite this, some species remain unidentified, whilst others have been the subject of disagreement between authors. In this paper I provide identifications for two of Azara's "mystery" waterbirds, suggesting new synonymies for the scientific names based on them. Note that Azara's measurements are given in inches (=25.4 mm) and lines (=2.21mm).

NO. 378 YPACAHÁ JASPEADO ENCIMA (AZARA VOLUME 3: P.234)

"No lo he visto ; pero Noseda le describe del modo siguiente.
'Longitud 6 1/12 pulgadas : cola 1 ¼ : braza 9 ¾. De la base del pico hasta media cabeza encima es acanelado fuerte , con los costados de ella poco ménos. Lo mismo es debaxo y siguiendo hasta la cola, sin mas diferencia que el pecho es algo mas blanquizco. De media cabeza por encima hasta la cola pardo acanelado , y cada pluma tiene la punta central obscura , y en el centro marginal de esta se coloca otra manchita blanca. De manera que queda el color total jaspeado de blanco y obscuro sobre fondo pardo acanelado ; el qual encima de las alas es mas canela , y en el costado del cuerpo perfecta canela con el mismo jaspe de arriba; comprehendiendo esta pintura , aunque ménos perceptible , el tercio exterior de los remos , que todos son pardos puros. Las tapadas menores acaneladas blancas, y las mayores obscuras con visos de perla y las puntas mas claras. La cola parda.

Remos 20, el quarto y quinto mayores: cola 8 plumas en escalerilla: pierna 18 lineas, las 3 desnudas: tarso 11 de coral roxo: dedo medio 10 ½: pico 7, la punta obscura, la pieza superior negra: el labio de esta y lo demás de la inferior verde amarillo: iris roxo.'

Mi Autor describe á su Marouette diciendo que es un Rale aquático tan pequeño como mi Correndera del numero CXLVII; y que el fondo de todo su vestido es pardo oliva, manchado y variado de blanquizco, cuyo lustre sobre la tinta sombria le hace parecer como esmaltado. Siendo la Correndera de 6 pulgadas, podría esta descripcion aplicarse al Ypacahá de Noseda; pero es menester desconfiar, porque sobre que Buffon habla en globo, añade que es de pasa en Francia y en Italia: que nada entre dos aguas y encima

que zambulle, y que pone de 7 á 8 huevos. Que son todas cosas que no creo de ninguno de mis Ypecahás, ni en los Rales. Agrégase que la estampa 751 le marca 7 pulgadas y difiere en los colores de lo que dicen Buffon y Noseda , siendo el pico y todo el dibuxo no de Rale ó Ypacahá."

(My translation) No. 378 Crake that is mottled above

"I haven't seen it ; but Noseda describes it as follows.

'Length 6 1/12 inches : tail 1 ¼ : wingspan 9 ¾. From the base of the bill until halfway down the head is strongly cinnamon, with the sides of the head slightly less so. It is the same below, continuing to the tail, barely differing except for the breast which is a little more whitish. From the middle of the head, across the upperparts to the tail is brownish-cinnamon, and each feather has a dark central spot, and on the central margin of it there is another small white spot. This makes the color seem entirely mottled with white and dark on a brownish-cinnamon background; which is more cinnamon over the wings, and perfectly cinnamon on the sides of the body with the same mottling as the upperparts; complementing this image, though less noticeably, the exterior third of the flight feathers are pure brown. The lesser coverts are cinnamon-white, and the greater coverts dark with a pearly shimmer and lighter tips. The tail is brown.

Flight feathers 20, the fourth and fifth longest: tail 8 feathers increasing in length towards the center: leg 18 lines, three being naked: coral red tarsus 11: middle toe 10 ½: bill 7, the tip dark, the maxilla black, the cutting edge of it and the mandible greenish-yellow: iris red.'

My author (in reference to Buffon) describes his Marouette saying that it is an aquatic rail as small as my Ochre-breasted Pipit Number CXLVII; and that its background color is brownish-olive, spotted and variegated with white, which gives a luster over the dark coloration that looks like enamel. As the Ochre-breasted Pipit is 6 inches long, this description could be applied to Noseda's Ypacahá, but it is wise to be cautious, because Buffon speaks worldwide, adding that it passes through France and Italy: it swims between two water sources and also dives, and that it lays 7 or 8 eggs. These are all things that I don't think are true for any of my Ypecahás. It should be added that the plate 751 shows it at 7 inches, and differs in the colors described by both Buffon and Noseda, neither the drawing nor the bill being a rail or Ypecahá."

Previous identifications

Despite Sonnini's (in Azara 1809) lazy assertion to the contrary, Azara (1805b) was correct in stating that his No. 378 was different to the *Marouette* of Buffon that bird being the quite dissimilar and geographically distant Spotted Crake *Porzana porzana* (Linnaeus, 1766). The description by Padre Nóseda formed the basis of *Rallus maculosus* Vieillot, 1819, with Hartlaub (1847) updating the generic taxonomy to *Ortygometra maculosa*. Berlepsch (1887) first suggested apparently without any sound basis that this description was "maybe a juvenile *Porzana leucopyrrhus*". The juvenile of that species was not described until much later (Pereyra 1931, Everitt 1962). Laubmann (1939) undoubtedly followed Berlepsch (1887) by tentatively suggesting with a query that it was Red-and-white Crake *Laterallus leucopyrrhus* (Vieillot, 1819), however he omitted any mention of a juvenile. Pereyra (1945) then subsequently repeated this identification but without either the uncertainty or the mention of age that other authors had included.

Identity

Azara's text is a near perfect description of Ocellated Crake *Micropygia schomburgkii* (Cabanis in Schomburgk, 1848) and the

measurements provided are broadly consistent with that species (Table 1). That this identity was previously overlooked is perhaps influenced by the fact that the species was not known to occur in Paraguay until it was documented by Lowen *et al*. (1996) in the grasslands of Canindeyú department (Guyra Paraguay 2005), though it had been previously listed for Paraguay without supporting evidence by Contreras *et al*. (1990). There are no modern records of the species from the area where Padre Nóseda lived (San Ignacio Guazú, Misiones department) which is much further south than the current known range. Notwithstanding, Nóseda's description represents the first report of the species in Paraguay.

Nomenclatural recommendation

Rallus maculosus Vieillot, 1819, is a senior synonym of *Micropygia schomburgkii* (Cabanis in Schomburgk, 1848), but has not been used to my knowledge as a valid name after 1899 (ICZN 1999; Article 23.9.1.1). *Rallus maculosus* Vieillot, 1819 is thus a *nomen oblitum* and *Micropygia schomburgkii* (Cabanis in Schomburgk, 1848) is to be retained as a *nomen protectum* (ICZN 1999; Article 23.9.2).

NO. 402 CHORLITO PIES ROXOS (AZARA VOLUME 3: P.318)

"Le compré por noviembre en el Paraguay, y no he visto otro. Longitud 8 ½ pulgadas: cola 2 1/6: braza 17 ¾ , y hasta la raiz del cuello 3 ½. El tupé es pardo muy blanquizco. La pluma de la cabeza parda con orillas blanquizcas, y casi lo mismo son el cogote y nuca. De esta al tercio del pestorejo obscuro con bordas blancas ; y el resto hasta la espalda inclusive , el escapulario, y un poco sobre la rabadilla, son obscuros, ménos las plumas externas del escapulario que son muy blancas; lo mismo que todo el lomo, los timoneles superiores, todas las cobijas del trozo externo (ménos las inmediatas al encuentro), lo inferior y costados del cuerpo , los remos debaxo, las tapadas y baxo de la cabeza. Ademas el mismo color blanco se introduce hasta media garganta por un seno en ángulo agudo , formado por las plumas obscuras variadas con blanco , que ocupan la mitad alta de la garganta y sus inmediaciones con todo el costado del cuello. El órden mayor de cobijas en los trozos internos tiene un buen pedazo blanco en las puntas: las demas cobijas obscuras con los mástiles negros ; y las del trozo exterior , y los remos, obscuros, con los mástiles blancos en estos. Los remos de los trozos interiores tienen la punta blanca, y una manchita idem se advierte en los del trozo exterior, ménos en los cinco primeros. La mitad de la raiz de la cola y la puntita blancas, con el intermedio obscuro.

Remos 25, el primero mayor: cola 12 plumas en escalerilla, la de afuera 3 lineas mas corta: pierna 25, las 5 arremangadas: tarso 13 ½, naranjadas, y los dedos separados : el medio 10: pico 10 ⅓, rectísimo, agudo y fuerte para Chorlito, negro, comprimido por los costados, ya la mitad superior conocidamente mas gruesa : ojo algo pequeño."

(My translation) No. 402 Plover with red legs

"I bought it during November in Paraguay and I haven't seen another one. Length 8 ½ inches: tail 2 1/6: wingspan 17 ¾, and to the base of the neck 3 ½. The forehead is brown, very whitish. The feathers of the head are brown with white edges, and the hind crown and nape are almost the same. From here to a third of the way down the breast is dark with white edges; and the rest to the back inclusive, the scapulars, and a small part of the rump are dark, except for the external feathers of the scapulars which are very white, the same is true of the back, the upper tail feathers, all of the coverts of the outer wing (except those closest to the wing bend), the underside and sides of the body, the underside of the flight feathers, the underwing lining and the underside of the head.

Additionally the same white coloration reaches the mid-throat in a strip with a sharp angle, bordered by dark feathers variegated with white, that occupy the upper half of the throat and its surroundings and all of the sides of the neck. The inner part of the greater coverts show a large spot of white at the tips: the other coverts are dark with black shafts; and those of the outer part of the wing, and the flight feathers, dark with the shafts white. The flight feathers of the inner part of the wing have a white tip, and a similar small spot is visible on those of the outer wing, with the exception of the first five. The basal half of the tail and the tail margin are white, with the area between dark.

Flight feathers 25, the first is the longest: tail 12 feathers in a wedge-shape, the outermost 3 lines shorter: leg 25, the basal 5 feathered: tarsus 13 ½, orange and with the toes unwebbed : middle toe 10: bill 10 ⅓,very straight, sharp and strong for a plover, black, compressed at the sides and with the upper half considerably more robust: eye somewhat small."

Previous identifications

Sonnini (in Azara 1809) noted the "great similarity" of the description to the "Chevalier Blanc" of Buffon, illustrated as the "White Redshank" in Edwards (1764: pl.139). This bird was described as *Totanus candidus* by Brisson, 1760, but Edwards himself considered the bird to be a Redshank *Tringa totanus* (Linnaeus, 1758). Regardless, Azara's description has nothing more in common with Edwards' illustration or Brisson's and Buffon's descriptions than a similarity in leg color.

Hartlaub (1847) identified this species as *Calidris arenaria* Illiger, 1811, following Lichtenstein (1823) who had stated that "specimens from Montevideo suggested that this may be the bird that Azara referred to". Laubmann (1939) and Pereyra (1945) followed suit by including this name in the synonymy of Sanderling *Calidris alba* (Pallas, 1764). Hellmayr (1948) also did so, albeit with a query. Again, aside from the presence of significant areas of white on the plumage, it is difficult to reconcile that species with Azara's detailed description.

Identity

With the exception of Sonnini, all previous authors seem to have paid little attention to the common name provided by Azara which means "red legs" (even though he described the legs in the description more accurately as "orange"). This significantly narrows the number of potential species it could refer to in South America and conclusively rules out *Calidris alba* (which has black legs – Message and Taylor 2005) as a possibility. The description of the upperparts (including the diagnostic white "shoulders" and contrasting rump), the white-tipped tail, wing pattern, bill shape and head markings are all consistent only with a non-breeding Ruddy Turnstone *Arenaria interpres* (Linnaeus, 1758). The measurements provided are also broadly consistent with that species (Table 1).

Arenaria interpres is a species recently documented in Paraguay (Lesterhuis and Clay 2001), but which is now known to pass through the country as a rare, but perhaps annual passage migrant.

Nomenclatural recommendation

Totanus nigellus Vieillot, 1816 is a junior synonym of *Arenaria interpres morinella* (Linnaeus, 1766). It is available for application, but is not the valid name of the species under the Principle of Priority (ICZN 1999; Article 23).

CONFLICT OF INTEREST

The author declares that he has no conflicts of interest.

Table 1. Comparative measurements for Azara's 378, 402 and species suggested in the literature. For the measurements provided by Azara one inch is treated as equivalent to 25.4 mm and one line ("una línea") is treated as equivalent to 2.21 mm consistent with conventions of the time (Smith *et al*. 2018). Crake measurements from Taylor and van Perlo (1998) mean followed by range and number of specimens. Wader measurements from Hayman *et al*. (1991), range only, no mean or number of specimens provided.

	Azara No. 378	***Micropygia schomburgkii***	***Laterallus leucopyrrhus***	**Azara No. 402**	***Arenaria interpres morinella***	***Calidris alba***
Length	165.1	140–150	140–170	215.9	210–255	200–210
Tail	31.8	38 (34–40; n = 3)	47.1 (41–55; n = 11)	55.0	54–65	46–54
Tarsus	24.3	23.8 (22–26.5; n = 3)	31.0 (30–32; n=13)	29.8	24–28	22–28
Bill	15.5	14.5 (13–16; n = 3)	16.1 (15–19; n = 13)	22.8	19–25	21–28

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